AI & Business Intelligence Engineering Manager
Stevens Institute of Technology

Job Title	AI & Business Intelligence Engineering Manager
Department	College of Professional Education
Institution	Stevens Institute of Technology
	Hoboken, New Jersey
Date Posted	Apr. 14, 2025
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Director/Manager
Academic Field(s)	Other Administrative Departments
	Computing/Informational Services
	Business & Administration
Job Website	https://stevens.wd5.myworkdayjobs.com/External/job/Hoboken-NJ---Main-Campus/AI---Business-Intelligence-Engineering-Manager_RQ29035
Apply By Email	
Job Description	

AI & Business Intelligence Engineering Manager
Stevens Institute of Technology

The AI & Business Intelligence Engineering Manager will lead the design, development, and integration of AI solutions while performing data analysis, forecasting, and business strategy initiatives. This hands-on role involves full-stack software development using technologies such as React, Python, JavaScript, and large language models (LLMs) and other AI technologies to build an AI career coach application. The candidate will also be responsible for automating processes including ETL of data and report writing - through programming and AI, and within cloud computing environments. A solid understanding of higher education is essential, along with excellent communication and collaboration skills.

Key Responsibilities & Accountabilities:

AI Development & Full-Stack Engineering (30%)

- Lead and execute the design, development, and integration of AI and Machine learning technologies and applications using React, Python, JavaScript, and LLMs and ML/DS libraries.
- Build and maintain an AI career coach application with seamless cloud integration (Azure, CI/CD pipeline) for CPE.
- Provide technical leadership and collaborate with research and technical teams to optimize and troubleshoot AI-driven solutions.

Data Management, Analysis & Forecasting (30%)

- Perform and oversee data pre-processing, analysis, and forecasting initiatives using Python and related technologies like Jupyter Notebook.
- Develop and monitor key performance indicators (KPIs) that drive program improvement and strategic planning for CPE senior leadership.
- Automate ETL processes and report writing using programming and AI to ensure accurate and timely data flow.
- Deliver clear, actionable reports and visualizations that support data-driven decision-making for CPE stakeholders

Business Intelligence & Strategic Collaboration (20%)

- Collaborate with leadership, business teams, and prospective partners to align data intelligence with strategic goals, business requirements, and partnership objectives.
- Develop and deliver engaging, data-driven presentations, custom reports, and actionable

recommendations that highlight the value of CPE's programs and partnerships.
- Serve as the technical liaison between other university units and CPE leadership, ensuring that data insights are accurately collected and translated into practical, actionable strategies.
- Provide hands-on support by troubleshooting reporting system issues and working with CPE stakeholders to tailor and optimize data solutions.

Data Infrastructure Development & Maintenance (20%)

- Design and implement robust data architectures and infrastructures to support analytics and reporting needs.
- Ensure data quality and consistency, collaborating with IT and cross-functional teams to resolve discrepancies.
- Develop and maintain tools and processes that streamline data collection, storage, and analysis.

Required Skills and Qualifications:

- **Programming & Full-Stack Development:**
  - Proficiency in Python, JavaScript, and modern frameworks like React and Flask.
  - Experience with RESTful API development and cloud integration.
  - Experiencing building software and doing research in the education space.
- **Generative Artificial Intelligence & LLMs:**
  - Hands-on experience with generative AI models (e.g., OpenAI GPT, Llama, Gemini) and familiarity with prompt engineering and Retrieval Augmented Generation.
- **ETL Automation & Data Engineering:**
  - Expertise in automating ETL processes and report generation using programming and AI.
  - Knowledge in data pre-processing, analysis, and forecasting.
- **Cloud Technologies & DevOps:**
  - Experience working with cloud platforms (e.g., Azure, AWS, Google Cloud), preferably Azure.
  - Familiarity with containerization (Docker) and CI/CD pipelines.
- **Data Visualization & Business Intelligence:**
  - Proficiency with BI and visualization tools such as Power BI or Tableau or other data science libraries/frameworks.
  - Strong analytical skills to transform data into actionable insights.
- **Software Engineering Best Practices:**
  - In-depth knowledge of version control systems (e.g., Git), agile methodologies, and testing frameworks.
  - Commitment to writing clean, maintainable, and scalable code.

- **Communication & Collaboration:**
  - Excellent communication and interpersonal skills for effective cross-functional teamwork.
  - Ability to translate complex technical concepts into clear, business-relevant strategies.
- **Domain Knowledge:**
  - Familiarity with higher education or degree program environments.

Minimum Qualifications:

- A Master's degree in computer science, data science, mathematics, business administration, or a related field and 1-2 years of relevant professional experience in engineering roles and working within a team, especially in Full stack AI development and data engineering. The professional work experience should include:
  - 1-2 years of relevant professional hands-on experience in building and maintaining AI applications, particularly in career coaching or educational settings with.
  - Strong professional experience in designing and developing Retrieval Augmented Generation GenAI systems
  - Proven expertise in efficient and reliable pre-processing of multimodal data (image, audio, text) to apply vectorization and create RAG pipeline.
  - Strong collaboration skills with the ability to clearly explain technical concepts to different teams.
  - Proficient with Excel and Data analysis using Python (eg: EDA, Forecasting)
  - In-depth knowledge of Python and its machine learning libraries (like sklearn, TensorFlow, PyTorch, statsmodels, etc.).
  - Experience with various tools, languages, and frameworks in the Big Data and cloud ecosystem.
  - Solid skills in machine learning, designing data structures, applying advanced analytical and statistical methods, and overall architecture planning.
  - The ability to measure business improvements from optimization techniques using business analytics and statistical modeling.
  - 1-2 years of relevant professional experience in exploring or productizing the latest AI technologies, including LLMs and vector databases.
  - Proven analytical skills with experience in tracking KPIs and measuring performance.
  - Familiarity with using existing in-house data platforms and the initiative to build new data solutions when needed.
  - Excellent verbal and written communication skills to effectively explain technical solutions and results to both technical and non-technical audiences.
  - Experience working independently under tight deadlines and delivering results efficiently.
  - 1-2 years of relevant professional experience with requirements gathering, facilitating

meetings, presentation creation, and ability to prepare deliverables.

Preferred Qualifications:

- Prior work in a startup environment a plus
- Experience with building applications.
- Worked on data analysis automation and reporting.
- Experiencing deploying database and application on Azure Cloud.
- Work experience with AI RAG applications.
- Prior work in business intelligence with data visualization and database technologies (e.g., SQL, Snowflake).

Supervision:

This role will oversee the tech stack at CPE, which may include a team of hourly temporary workers, data analysts, and research assistants. In addition, the role acts as the supervisory liaison to any third-party tech service contract companies. It requires strong leadership, mentorship, and collaboration skills to work effectively with cross-functional teams, including IT, data science, business strategy, and academic program leaders.

Department

College of Professional Education

General Submission Guidelines:

Please submit an online application to be considered a candidate for any job at Stevens. Please attach a cover letter and resume with each application. Other requirements for consideration may depend on the job.

Still Have Questions?

If you have any questions regarding your application, please contact Jobs@Stevens.edu.

AI & Business Intelligence Engineering Manager
Stevens Institute of Technology

EEO Statement:

Stevens Institute of Technology is an Equal Opportunity Employer. Accordingly, Stevens adheres to an employment policy that prohibits discriminatory practices or harassment against candidates or employees based on legally impermissible factor(s) including, but not necessarily limited to, race, color, religion, creed, sex, national origin, nationality, citizenship status, age, ancestry, marital or domestic partnership or civil union status, familial status, affectional or sexual orientation, gender identity or expression, atypical cellular or blood trait, genetic information, pregnancy or pregnancy-related medical conditions, disability, or any protected military or veteran status.

Stevens is building a diverse faculty, staff, and student body and strongly encourages applications from people of all backgrounds. Stevens is a federal contractor under the Vietnam Era Veterans' Readjustment Assistance Act (VEVRAA) and the Rehabilitation Act of 1973, as well as other federal statutes.

NSF ADVANCE Institution Stevens values diversity and seeks candidates who will contribute to a welcoming and inclusive environment for students, faculty, and staff of all backgrounds. We are an NSF ADVANCE institution committed to equitable practices and policies and strongly encourage applications from women, racial and ethnic minority candidates, veterans, and individuals with disabilities.

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact

,